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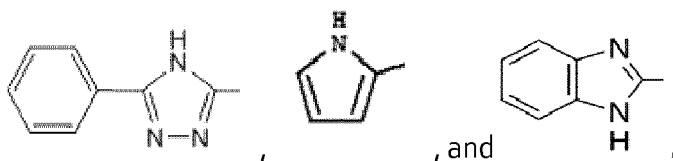
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(54) **CURING AGENTS FOR COMPOUNDS**

(57) Curing fluoroelastomers using curing agents of formula, $R_1N=CR_2R_3$, wherein R_1 is H; R_2 is selected from the group consisting of H, NH_2 , and NR_4R_5 ; R_3 is selected from the group consisting of Ph, SO_2H , NR_6R_7 , 2-pyridine, and CH_2CONH_2 ; R_4 is H; R_5 is selected from the group consisting of Ph, NH_2 , and CN; R_6 is selected from the group consisting of H, $NHPh$, $C(=O)NH_2$, C_1 to C_8 linear alkyl group, and C_1 to C_8 branched alkyl group; and R_7 is selected from the group consisting of Ph, $COOC(CH_3)_3$, NH_2 , CH_2COOH , $CSNH_2$, $CNHNH_3^+ Cl^-$, p-phenylCN, COPh,



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EUROPEAN SEARCH REPORT

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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A	WO 2004/069900 A2 (GREENE TWEED INC [US]; AUFDERMARSH CARL A [US]; AMIN HARSHAD P [US]; L) 19 August 2004 (2004-08-19) * claims 1,4,15 *	1-15	
			TECHNICAL FIELDS SEARCHED (IPC)
			C08L C08K C08F
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 18 January 2018	Examiner Parry, Julian
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☒ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

1-15 (partially)

☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).

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The subject matter of claims 1-15 where R3 is NR6R7 wherein R6 = H and R7 = p-phenylCN



LACK OF UNITY OF INVENTION
SHEET B

Application Number

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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

10. claims: 1-15(partially)

The subject matter of claims 1-15 where R3 is NR6R7 wherein
R6 = H and R7 = C(=O)Ph

11. claims: 1-15(partially)

The subject matter of claims 1-15 where R3 is NR6R7 wherein
R6 = H and R7 = a comprising a ring described by
Ph-C(=O)N(C(=O)Me)C(=O)NH

12. claims: 1-15(partially)

The subject matter of claims 1-15 where R3 is NR6R7 wherein
R6 = H and R7 = a comprising a ring described by C(=O)C(=O)MeNH

13. claims: 1-15(partially)

The subject matter of claims 1-15 where R3 is NR6R7 wherein
R6 = H and R7 = a comprising a ring described by C(=O)N(C(=O)Me)C(=O)N

14. claims: 1-15(partially)

The subject matter of claims 1-15 where R3 is NR6R7 wherein
R6 = N(=O)Ph and R7 = Ph

15. claims: 1-15(partially)

The subject matter of claims 1-15 where R3 is NR6R7 wherein
R6 = N(=O)Ph and R7 = C(=O)O(C(=O)CH3)3

16. claims: 1-15(partially)

The subject matter of claims 1-15 where R3 is NR6R7 wherein
R6 = N(=O)Ph and R7 = NH2

17. claims: 1-15(partially)

The subject matter of claims 1-15 where R3 is NR6R7 wherein
R6 = N(=O)Ph and R7 = CH2C(=O)OH

18. claims: 1-15(partially)



**LACK OF UNITY OF INVENTION
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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

The subject matter of claims 1-15 where R3 is NR6R7 wherein
R6 = NHPH and R7 = CSNH2

19. claims: 1-15(partially)

The subject matter of claims 1-15 where R3 is NR6R7 wherein
R6 = NHPH and R7 = CNH3+Cl-

20. claims: 1-15(partially)

The subject matter of claims 1-15 where R3 is NR6R7 wherein
R6 = NHPH and R7 = p-phenylCN

21. claims: 1-15(partially)

The subject matter of claims 1-15 where R3 is NR6R7 wherein
R6 = NHPH and R7 = CPh

22. claims: 1-15(partially)

The subject matter of claims 1-15 where R3 is NR6R7 wherein
R6 = NHPH and R7 = a comprising a ring described by
Ph-CNNC(Me)CNH

23. claims: 1-15(partially)

The subject matter of claims 1-15 where R3 is NR6R7 wherein
R6 = NHPH and R7 = a comprising a ring described by
C3C(Me)NH

24. claims: 1-15(partially)

The subject matter of claims 1-15 where R3 is NR6R7 wherein
R6 = NHPH and R7 = a comprising a ring described by
C6NHC(Me)N

25. claims: 1-15(partially)

The subject matter of claims 1-15 where R3 is NR6R7 wherein
R6 = CCONH2 and R7 = Ph

26. claims: 1-15(partially)



**LACK OF UNITY OF INVENTION
SHEET B**

Application Number

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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

The subject matter of claims 1-15 where R3 is NR6R7 wherein
R6 = CCONH2 and R7 = COOC(CH3)3

27. claims: 1-15(partially)

The subject matter of claims 1-15 where R3 is NR6R7 wherein
R6 = CCONH2 and R7 = NH2

28. claims: 1-15(partially)

The subject matter of claims 1-15 where R3 is NR6R7 wherein
R6 = CCONH2 and R7 = CH2COOH

29. claims: 1-15(partially)

The subject matter of claims 1-15 where R3 is NR6R7 wherein
R6 = CCONH2 and R7 = CSNH2

30. claims: 1-15(partially)

The subject matter of claims 1-15 where R3 is NR6R7 wherein
R6 = CCONH2 and R7 = CNHNNH3+Cl-

31. claims: 1-15(partially)

The subject matter of claims 1-15 where R3 is NR6R7 wherein
R6 = CCONH2 and R7 = p-phenylCN

32. claims: 1-15(partially)

The subject matter of claims 1-15 where R3 is NR6R7 wherein
R6 = CCONH2 and R7 = CPh

33. claims: 1-15(partially)

The subject matter of claims 1-15 where R3 is NR6R7 wherein
R6 = CCONH2 and R7 = a comprising a ring described by
Ph-CNNC(Me)CNH

34. claims: 1-15(partially)

The subject matter of claims 1-15 where R3 is NR6R7 wherein



LACK OF UNITY OF INVENTION
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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

R6 = CCONH2 and R7 = a comprising a ring described by
C3C(Me)NH

35. claims: 1-15(partially)

The subject matter of claims 1-15 where R3 is NR6R7 wherein
R6 = CCONH2 and R7 = a comprising a ring described by
C6NHC(Me)N

36. claims: 1-15(partially)

The subject matter of claims 1-15 where R3 is NR6R7 wherein
R6 = C1-C8 linear or branched alkyl group and R7 = Ph

37. claims: 1-15(partially)

The subject matter of claims 1-15 where R3 is NR6R7 wherein
R6 = C1-C8 linear or branched alkyl group and R7 =
COOC(CH3)3

38. claims: 1-15(partially)

The subject matter of claims 1-15 where R3 is NR6R7 wherein
R6 = C1-C8 linear or branched alkyl group and R7 = NH2

39. claims: 1-15(partially)

The subject matter of claims 1-15 where R3 is NR6R7 wherein
R6 = C1-C8 linear or branched alkyl group and R7 = CH2COOH

40. claims: 1-15(partially)

The subject matter of claims 1-15 where R3 is NR6R7 wherein
R6 = C1-C8 linear or branched alkyl group and R7 = CSNH2

41. claims: 1-15(partially)

The subject matter of claims 1-15 where R3 is NR6R7 wherein
R6 = C1-C8 linear or branched alkyl group and R7 =
CNH3H3+C1-

42. claims: 1-15(partially)



LACK OF UNITY OF INVENTION
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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

The subject matter of claims 1-15 where R3 is NR6R7 wherein
R6 = C1-C8 linear or branched alkyl group and R7 =
p-phenylCN

43. claims: 1-15(partially)

The subject matter of claims 1-15 where R3 is NR6R7 wherein
R6 = C1-C8 linear or branched alkyl group and R7 = CPh

44. claims: 1-15(partially)

The subject matter of claims 1-15 where R3 is NR6R7 wherein
R6 = C1-C8 linear or branched alkyl group and R7 = a
comprising a ring described by Ph-CNNC(Me)CNH

45. claims: 1-15(partially)

The subject matter of claims 1-15 where R3 is NR6R7 wherein
R6 = C1-C8 linear or branched alkyl group and R7 = a
comprising a ring described by C3C(Me)NH

46. claims: 1-15(partially)

The subject matter of claims 1-15 where R3 is NR6R7 wherein
R6 = C1-C8 linear or branched alkyl group and R7 = a
comprising a ring described by C6NHC(Me)N

47. claims: 1-15(partially)

The subject matter of claims 1-15 where R3 is 2-pyridine

48. claims: 1-15(partially)

The subject matter of claims 1-15 where R3 is CH2CONH2

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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